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CLAIMS

What is claimed is:

1. A wafer processing system comprising:

a loading station;

a process module maintained at a predetermined pressure during normal operation; and

a first single-wafer load lock directly adjacent to the process module, the first single-wafer load lock having a single wafer support, the first single-wafer load lock being coupled to receive a wafer originating from the loading station.

- The system of claim 1 further including a second single-wafer load lock directly adjacent to said process module, the second single-wafer load lock having a single wafer support.
- 3. The system of claim 1 wherein the process module includes a plurality of processing stations.
- 4. The system of claim 1 wherein the loading station includes a front-opening unified pod (FOUP).
- 5. The system of claim 1 further comprising a robot between the loading station and the first single-wafer load lock.
- 6. The system of claim 2 further comprising a pump coupled only to the first and second single-wafer load locks, the pump being located locally on the wafer processing system.
- 7. The system of claim 1 wherein the single wafer support of the first singlewafer load lock includes a pedestal having an integral cooling unit.

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- 8. The system of claim 1 wherein the single wafer support of the first singlewafer load lock includes a single pedestal having an integral heating unit.
 - 9. A method for handling a wafer in a wafer processing system comprising: selecting a first single-wafer load lock from a plurality of load locks; placing a wafer in said first single-wafer load lock; pumping down said first single-wafer load lock to vacuum; moving said wafer directly to a process module; and processing said wafer in said process module.
 - 10. The method of claim 9 further comprising:

moving said wafer to a second single-wafer load lock after said wafer has been processed in said process module;

venting said second single-wafer load lock to atmospheric pressure; and cooling said wafer while said second single-wafer load lock is being vented.

11. The method of claim 9 further comprising:

moving said wafer to said first single-wafer load lock after said wafer has been processed in said process module;

venting said first single-wafer load lock to atmospheric pressure; and cooling said wafer while said first single-wafer load lock is being vented.

- 12. The method of claim 9 wherein said wafer is heated while said first single-wafer load lock is being pumped down.
 - 13. A wafer processing system comprising:a loading station;

a process module maintained at vacuum during normal processing;

a plurality of load locks, each of the plurality of load locks having an opening in direct communication with the process module and another opening in communication with the loading station; and

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a robot between the loading station and the plurality of load locks, the robot capable of transferring a wafer from the loading station to a load lock in the plurality of load locks.

- 14. The system of claim 13 wherein a first load lock in the plurality of load locks is a single-wafer load lock.
- 15. The system of claim 14 wherein the first load lock includes a single pedestal having an integrated cooling unit.
- 16. The system of claim 14 wherein the first load lock includes a single pedestal having an integrated heating unit.
 - 17. The system of claim 13 wherein the robot is an atmospheric robot.
- 18. The system of claim 13 wherein the loading station is a front-opening unified pod (FOUP).
- 19. The system of claim 13 wherein the process module has a plurality of processing stations.
- 20. The system of claim 19 wherein at least one of the plurality of processingstations is capable of heating a supported wafer.